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| 10/607,029 | 06/27/2003 | Chang Wook Han | 049128-5111 | 5609 |
| 9629 7590 01/11/2008 MORGAN LEWIS & BOCKIUS LLP 1111 PENNSYLVANIA AVENUE NW WASHINGTON, DC 20004 | | | EXAMINER | |
| | | | QUINTO, KEVIN V | |
| ART UNIT | | PAPER NUMBER | | |
| 2826 | | | | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/607,029 | HAN, CHANG WOOK | |
| | Examiner Kevin Quinto | Art Unit 2826 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 12 October 2007.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1,2,4-17,19-28,30 and 32-36 is/are pending in the application.
 - 4a) Of the above claim(s) 24-27 is/are withdrawn from consideration.
- 5) Claim(s) 4-14, 16, 19-23, 28, 30 and 32-36 is/are allowed.
- 6) Claim(s) 1,2,15 and 17 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) Notice of Informal Patent Application
- 6) Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1, 2, 15, and 17 have been considered but are moot in view of the new ground(s) of rejection.

Election/Restrictions

2. Amended claim 24 and dependent claims 25, 26, and 27 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: claims 24-27 describe processes for forming an active matrix organic electro luminescence display which is an invention distinct from that originally described in the claim filed on June 22, 2007. Claims 24-27, as originally filed on June 22, 2007, were allowed in the previous Office action. However newly amended claim 24 and its dependent claims 25, 26, and 27 describe a completely different fabrication process than originally described in the claims filed on June 22, 2007, since claim 24 now depends upon claim 15. Therefore the indicated allowability of claims 24-27 is withdrawn.

3. Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 24-27 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 2, 15, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayakawa et al. (USPN 6,858,898 B1) in view of Yokogawa et al. (USPN 6,762,553 B1).

6. In reference to claim 1, Hayakawa et al. (USPN 6,858,898 B1, hereinafter referred to as the "Hayakawa" reference) discloses a structure which meets the claim. Figures 1(A)-1(E), 2(A)-2(D), 12(A), and 12(B) of Hayakawa disclose an active matrix organic electro luminescence display panel device. There is a substrate (100) with at least one low refractive thin film (101a) formed directly on it. The examiner would like to note that the use of the word "on" by itself does not necessarily mean direct contact between two objects or layers in the semiconductor art. The word "on" by itself could mean that there may possibly be one or several layers between the two objects or layers to which the word "on" is referring. The applicant appears to interpret the word "on" in the same manner. An organic electro luminescence diode (3302, 3304, 3305) is formed on the low refractive thin film (101a) to selectively emit light. A switching device (3202) is formed on the low refractive thin film (101a) for selectively driving the organic electroluminescence diode. A capacitor (54, 12, 55) is formed on the low refractive thin

film (15) in order to sustain light emission of the organic electro luminescence diode. Hayakawa does not disclose the use of a silica aerogel as the low refractive thin film. However Yokogawa et al. (USPN 6,762,553 B1, hereinafter referred to as the "Yokogawa" reference) discloses that silica aerogel is a known low refractive film (column 8, lines 27-42). Furthermore silica aerogel is a form of silica gel. The applicant is reminded in this regard that it has been held that mere selection of known materials generally understood to be suitable to make a device, the selection of the particular material being on the basis of suitability for the intended use, would be entirely obvious. *In re Leshin* 125 USPQ 416. Therefore claim 1 is not patentable over Hayakawa and Yokogawa.

7. With regard to claim 2, Yokogawa discloses that the refractive rate of the low refractive thin film is 1.003 to 1.3 (column 8, lines 27-42). The examiner would like to note:

In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a *prima facie* case of obviousness exists. *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). See MPEP 2144.05.

Thus claim 8 does not distinguish over the prior art references of Hayakawa and Yokogawa.

8. In reference to claim 15, Hayakawa (USPN 6,858,898 B1) discloses a method which meets the claim. Figures 1(A)-1(E), 2(A)-2(D), 12(A), and 12(B) of Hayakawa disclose an active matrix organic electro luminescence display panel device. There is a substrate (100) with at least one low refractive thin film (101a) formed directly on it. The examiner would like to note that the use of the word "on" by itself does not necessarily

mean direct contact between two objects or layers in the semiconductor art. The word "on" by itself could mean that there may possibly be one or several layers between the two objects or layers to which the word "on" is referring. The applicant appears to interpret the word "on" in the same manner. An organic electro luminescence diode (3302, 3304, 3305) is formed on the low refractive thin film (101a) to selectively emit light. A switching device (3202) is formed on the low refractive thin film (101a) for selectively driving the organic electroluminescence diode. A capacitor (54, 12, 55) is formed on the low refractive thin film (15) in order to sustain light emission of the organic electro luminescence diode. Hayakawa does not disclose the use of a silica aerogel as the low refractive thin film. However Yokogawa (USPN 6,762,553 B1) discloses that silica aerogel is a known low refractive film (column 8, lines 27-42). Furthermore silica aerogel is a form of silica gel. The applicant is reminded in this regard that it has been held that mere selection of known materials generally understood to be suitable to make a device, the selection of the particular material being on the basis of suitability for the intended use, would be entirely obvious. *In re Leshin* 125 USPQ 416. Therefore claim 15 is not patentable over Hayakawa and Yokogawa.

9. With regard to claim 17, Yokogawa discloses that the refractive rate of the low refractive thin film is 1.003 to 1.3 (column 8, lines 27-42). The examiner would like to note:

In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a *prima facie* case of obviousness exists. *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). See MPEP 2144.05.

Thus claim 17 does not distinguish over the prior art references of Hayakawa and Yokogawa.

Allowable Subject Matter

10. Claims 4-14, 16, 19-23, 28, 30, 32-36 are allowed.
11. The following is a statement of reasons for the indication of allowable subject matter: the examiner is unaware of any prior art which suggests or renders obvious a fabrication process for an active matrix organic electro luminescence display panel device with the explicit layer structure with regard to the low refractive thin film directly on a substrate in combination with the formation of an organic electro luminescence diode and switching device as suggested in claim 16.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Quinto whose telephone number is (571) 272-1920. The examiner can normally be reached on M-F 8AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sue Purvis can be reached on (571) 272-1236. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KVQ

/ A- Sefer /
Primary Examiner
AU2826